I love a sunburnt country
A land of sweeping plains
Of ragged mountain ranges
Of droughts and flooding rains
Twenty plus Years of National Water Reform

where did we get to and what now?
PRE 1990s

- Systems (particularly MDB) fully or over-allocated
- Inadequate pricing policies
- Unmeasured/Inefficient water use
- Inefficient institutional structures

Poor return to economy from water
Environmental degradation

WATER REFORM AGENDA DRIVEN BY
1. value of water as an economic enabler and
2. recognition of environmental, social and economic costs of exceeding resource limits
The council of Australian Governments endorse an national Water Reform Framework.

National Water Initiative is established and endorsed by all Australia Governments. Australian Government Water Fund $2 billion.

MAIN OBJECTIVES DEVELOPED IN 2004 AND BASED ON PREVIOUS WATER REFORM PROGRAMMES SUPPORTED BY COAG

Principle objectives:

• transparent and statutory-based water planning

• clear, nationally compatible and secure water access entitlements,

• open water markets

• consultation and engagement
1) Define Resource and Extraction Limits

Consumptive pool

Water for the environment

2) Specify extractions for each user

3) Trade allows individual water use to be reallocated
TRADE IN THE SOUTHERN MURRAY DARLING BASIN

Temporary Contracted Trades Pricing - [National Index (795 regions)] with Allocations for National Index (80 allocation titles)
From 1/7/2006 to 30/6/2013 { R = -0.73}
URBAN WATER MANAGEMENT CHALLENGES AND OPPORTUNITIES

- Population growth - Double within 50 years
- Provide safe and secure water supply
- Robust regulation
  - To encourage innovation, reduce costs and facilitate private sector input, to meet new and aging infrastructure demands
- Scope for a National Approach
  - Greater levels of national collaboration and consistency
Desalination Costs: Australian and International Experience

Source: Tom Pankratz

MARSDEN JACOB ASSOCIATES
nwc.gov.au
The NWI unambiguously endorses water recycling subject to 4 conditions:

- **Cost/Benefit and Risk Analysis**
- **Use of Best Available Science and Engineering**
- **Subject to Best Practice Regulatory Arrangements**
- **Community Participation, Transparency in All Decisions and Management Arrangements**
MANAGED AQUIFER RECHARGE

1. Capture zone
2. Pre-treatment
3. Infiltration basins
4. Subsurface storage
5. Recovery
6. Post treatment
7. End use

Ambient groundwater

Unconfined aquifer

Permeable soil

Australian Government
National Water Commission

nwc.gov.au
Supply cost of water sources

Source: Marsden Jacob analysis

MARSDEN JACOB ASSOCIATES
MARANDOO: EXCESS MINE WATER FOR AGRICULTURE
AQUIFER INTERFERENCE POLICY

THREE KEY PARTS

1. All water taken must be properly accounted for.

2. The activity must address minimal impact considerations for impacts on water table, water pressure and water quality.

3. Planning for measures in the event that the actual impacts are greater than predicted, including making sure that there is sufficient monitoring in place.
pumping creates drawdown in the water table around the mine

groundwater inflows to mine are pumped out as take that includes water from river, alluvial and porous rock water sources

take due to leakage induced from river into alluvium

take as water induced to flow from alluvium into rock

SOURCE: NSW DPI OFFICE OF WATER
UNCONVENTIONAL GAS RESOURCES

Shale gas
The environmental risks associated with hydraulic fracturing can be managed effectively subject to the creation of a robust regulatory regime.

There is no justification whatsoever for the imposition of a moratorium of hydraulic fracturing in the Northern Territory.
The Government will maintain a moratorium on the use of fracking ……for five years, until March 2020.

The Government continues to support exploration activities for hydrocarbons, but fracking will not be permitted in its exploration… or the development or production phases of a resource project .
CONCLUDING THOUGHTS

• The principles of the NWI are enduring and robust
• Water is a key economic enabler
• 20 years of reform have been worth the pain
• Need to consolidate progress and not regress
• Many areas for additional reform/progress
• Private sector/industry will need to be a strong and active partner
Using any reasonable basis for assessment, Australia's water industry is well managed, innovative, and efficient and is acknowledged as an international leader.

“..the world looks to us to set examples and to find innovative solutions; the world expects us to lead and they watch what we do very carefully”

Craig Simmons Director NCGRT (2013)